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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,339	01/20/2004	Hari Babu Sunkara	CL1483 US CNT	9809

7590 08/10/2004

E. I. du Pont de Nemours & Company  
Legal - Patent  
1007 Market Street  
Wilmington, DE 19894

EXAMINER

KEYS, ROSALYND ANN

ART UNIT	PAPER NUMBER
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1621

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/760,339

**Applicant(s)**

SUNKARA ET AL.

**Examiner**

Rosalynd Keys

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,20-24 and 46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,20-24 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/5/04.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Status of Claims***

1. Claims 1, 20-24 and 46 are pending.  
Claims 1, 20-24 and 46 are rejected.  
Claims 2-19 and 25-45 are cancelled.

### ***Information Disclosure Statement***

2. The information disclosure statement filed April 5, 2004 has been considered.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morris et al. (US 2,520,733) alone or in view of Kilpatrick (US 3,526,484).

The instant claims are directed to a process for making polytrimethylene ether glycol comprising continuously providing 1,3-propanediol reactant and polycondensation catalyst; and continuously polycondensing the 1,3-propanediol reactant to polytrimethylene ether glycol in two or more reaction stages.

Morris et al. teach the claimed invention at column 1, line 1 to column 6, line 22.

Morris et al. differ from the instant claims in that the process of Morris et al. is a batch process whereas the instant claims are directed to a continuous process. However, it is well established that batch and continuous processes are not patentably distinct. In re Dilnot, 319 F.2d 188, 138 U.S.P.Q. 248 (C.C.P.A. 1963).

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Morris et al. further differ from the instant claims in that Morris et al. fail to teach the use of more than one reaction stage.

Kilpatrick teaches that polycondensation reactions are usually carried out in two or more reaction stages (see column 1 lines 29-51). The use of two or more stages allows one to increase the viscosity of the polymer.

One having ordinary skill in the art at the time the invention was made would have found it obvious to utilize two or more reaction stages, as taught by Kilpatrick, for the process of Morris et al. in order to increase the viscosity of the product ether polymer.

2. Claims 1 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mason et al. (US 3,326,985) in view of Kilpatrick (US 3,526,484).

Mason et al. teach a process similar to the claimed invention at column 2, lines 20-53. Mason et al. differ from the instant claims in that the process of Mason et al. is a batch process whereas the instant claims are directed to a continuous process. However, it is well established that batch and continuous processes are not patentably distinct. In re Dilnot, 319 F.2d 188, 138 U.S.P.Q. 248 (C.C.P.A. 1963).

Mason et al. further differ from the instant claims in that Mason et al. fail to teach the use of more than one reaction stage.

Kilpatrick teaches that polycondensation reactions are usually carried out in two or more reaction stages (see column 1 lines 29-51). The use of two or more stages allows one to increase the viscosity of the polymer.

One having ordinary skill in the art at the time the invention was made would have found it obvious to utilize two or more reaction stages, as taught by

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Kilpatrick, for the process of Mason et al. in order to increase the viscosity of the product ether polymer.

3. Claims 1 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sunkara et al. (US 6,235,948) in view of Kilpatrick (US 3,526,484).

Sunkara et al. teach a process similar to the claimed invention at column 2, line 16 to column 4, line 40. Sunkara et al. differ from the instant claims in that the process of Sunkara et al. is a batch process whereas the instant claims are directed to a continuous process. However, it is well established that batch and continuous processes are not patentably distinct. In re Dilnot, 319 F.2d 188, 138 U.S.P.Q. 248 (C.C.P.A. 1963).

Sunkara et al. fail to teach conducting the reaction in more than one reaction stages.

Kilpatrick teaches that polycondensation reactions are usually carried out in two or more reaction stages (see column lines 29-51). The use of two or more stages allows one to increase the viscosity of the polymer.

One having ordinary skill in the art at the time the invention was made would have found it obvious to utilize two or more reaction stages, as taught by Kilpatrick, for the process of Sunkara et al. in order to increase the viscosity of the product ether polymer.

4. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brill et al. (US 3,192,184) in view of Lohe et al. (US 5,814,282).

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Brill et al. teach a continuous multi-stage process, which differs from the instant process in that the vapor is not removed from at least one intermediate stage (see column 1, lines 56 to column 2, line 3).

Lohe et al. teach an apparatus having more than one vapor outlet (see column 1, line 19 to column 2, line 17).

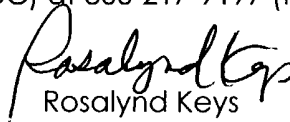
One having ordinary skill in the art at the time the invention was made would have found it obvious to utilize an apparatus having more than one vapor outlet as taught by Lohe et al. in the process of Brill et al. in order to increase the removal of the vapor by-product from the polymeric material produced by Brill et al. Thus, helping to further increase its viscosity.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rosalynd Keys whose telephone number is 571-272-0639. The examiner can normally be reached on M, R and F 3:30-8:30 pm and T-W 5:30-10:30 am.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Rosalyn Keys  
Primary Examiner  
Art Unit 1621

August 8, 2004